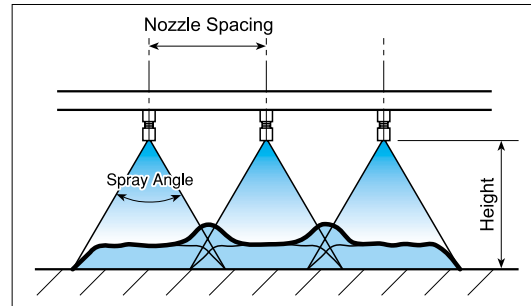


For Effective Use of Even Flat Spray Nozzles

Spray Distribution

Even flat spray nozzles are designed to produce an even spray distribution to even out the cleaning power in the spray width direction and are suitable for cleaning when using one nozzle.

When using even flat spray nozzles in multiple-nozzle arrangements, the overlapping spray distribution may be inferior to that of standard flat spray nozzles.



Tightening Torque

For high-pressure cleaning, highly wear-resistant CERJET® nozzles with ceramic orifice inserted are most suitable. However, if screwed too tight, the nozzle body, especially small ones such as 1/8" size, may be damaged which results in cracking the ceramic orifice. Please apply the recommended torque. Tightening torque should not exceed the following.

For brass body.....1/8M ; 800N·cm, 1/4M ; 1500N·cm

For stainless steel body.....1/8M ; 800N·cm, 1/4M ; 1500N·cm

Cleaning Force

The factors for showing cleaning efficiency of a nozzle are complex. To evaluate them, we use the spray impact and the amount of cavitation erosion. At a given liquid pressure, spray capacity and spray distance, the cleaning force of the solid stream jet nozzle is the strongest followed by the flat spray nozzles and the cone spray nozzles.

[Spray Impact]

	Spray Impact ($\times \frac{1}{100} \text{ N/cm}^2$)	
	Max.	Average
1/8 MDSP15104	560	503
1/8 MVNP1580	460	390

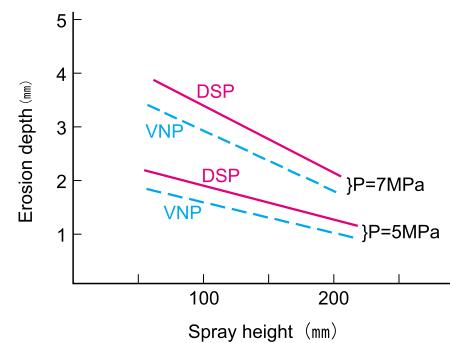
■ Pressure : 5MPa
■ Spray height : 150mm



[Amount of Cavitation Erosion]

The amount of cavitation erosion is the depth of the depression on a sample piece dug out by flat spray nozzles.

Specifications	1/8 MDSP15104	1/8 MVNP1580
Pressure (MPa)	5	7
Spray Angle (°)	16	16.5
Spray Capacity (ℓ/min)	9.9	11.7



Wide-angle Flat Spray Nozzles

YYP



[Features]

- Capable of generating wide-angle flat spray even at low liquid pressure.
- YYP clogs the least compared with other flat spray nozzles, although the spray impact is less strong.
- Spray direction is 75° to the nozzle axis.

[Standard Pressure]

0.15MPa

[Applications]

Cleaning : Conveyor belts, film, eliminator plates, plate glass, planks, etc.
Foam breaking : Waste water treatment, paper manufactures, etc.
Cooling : Conveyor belts, roofs, tanks, etc.
Water screen : Fire protection, heat protection, deodorization, etc.
Others : Applications which require wide angle flat spray at low pressures, etc.

[Spray Pattern]

[Spray Distribution]

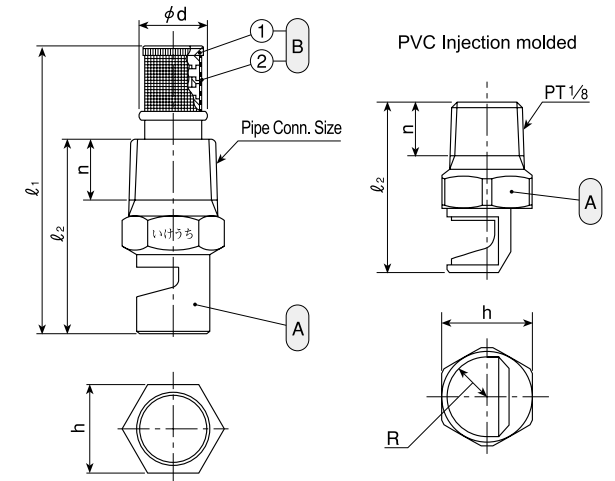
YYP-series

YYP-series	
Structure	• Made of metal or plastic, one-piece structure.
Material	• B (brass) or S303 (stainless steel 303), Injection-molded PVC (polyvinyl chloride) • Optional material : S316 or others

Series	Pipe Conn. Size *2	Dimensions(mm)							Mass(g) *1		
		ℓ ₁	ℓ ₂	h	φd	n	R	B	S303	PVC	
YYP	1/8M (03~13)	35.5	23	10	7.5	7	—	8	7.5	—	
	1/8M (16~60)	—	25	10	—	7	—	10	9.3	—	
	1/4M	—	34	14	—	10.5	—	30	28	—	
	3/8M	—	44	19	—	11	—	72	65	—	
	1/2M	—	50	22	—	14	—	112	105	—	
	3/4M (620)	—	55	27	—	15	—	187	175	—	
	3/4M (1000)	—	65	36	—	15	—	370	345	—	
YYP (Injection molded)	1M	—	75	41	—	18	—	550	510	—	
	1/8M (03~13)	—	21.5	12	—	7	4.5	—	—	1.8	
	1/8M (16~30)	—	22.5	12	—	7	5.25	—	—	1.8	

*1) For YYP with strainer, add 2-5g to the above mass.

*2) Figures in () after Pipe Conn. Size indicate the spray capacity codes.



① Nozzle
② Strainer (① Strainer holder ② Strainer screen)

[Note] Appearance and dimensions may differ slightly depending on materials and nozzle codes.

YYP-series

Spray Capacity Code	Pipe Conn. Size						Spray Angle			Spray Capacity (ℓ/min)							Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)	Strainer Mesh Size
	⅛M	¼M	⅜M	½M	¾M	1 M	0.05 MPa	0.15 MPa	0.4 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.3 MPa	0.5 MPa			
03	●						—	100°	117°	—	—	0.25	0.30	0.35	0.42	0.55	190	0.6	100
04	●						—	120°	137°	—	—	0.33	0.40	0.46	0.56	0.73		0.7	50
05	●						—	130°	146°	—	—	0.41	0.50	0.58	0.71	0.91		0.8	50
07	○						—	130°	145°	—	—	0.57	0.70	0.81	0.99	1.28	§	1.0	—
10	○						103°	130°	144°	—	0.58	0.82	1.00	1.15	1.41	1.83		1.1	—
13	○						108°	130°	144°	—	0.75	1.06	1.30	1.50	1.84	2.37		1.3	—
16	○						110°	130°	143°	—	0.92	1.31	1.60	1.85	2.26	2.92	280	1.5	—
20	○						116°	135°	147°	0.89	1.15	1.63	2.00	2.31	2.83	3.65		1.7	—
25	○						117°	135°	146°	1.12	1.44	2.04	2.50	2.89	3.54	4.56		1.8	—
30	○						118°	135°	146°	1.34	1.73	2.45	3.00	3.46	4.24	5.48	§	2.0	—
40	○						119°	135°	145°	1.79	2.31	3.27	4.00	4.62	5.66	7.30		2.4	—
50	○						120°	135°	145°	2.24	2.89	4.08	5.00	5.77	7.07	9.13		2.6	—
60	○						121°	135°	144°	2.68	3.46	4.90	6.00	6.93	8.49	11.0	470	2.8	—

Wide-angle Flat Spray Nozzles
YYP-series

YYP-series

Spray Capacity Code	Pipe Conn. Size						Spray Angle			Spray Capacity (ℓ/min)						Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)	Strainer Mesh Size
	1/8M	1/4M	3/8M	1/2M	3/4M	1M	0.05 MPa	0.15 MPa	0.4 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.3 MPa	0.5 MPa		
70		○					125°	140°	149°	3.13	4.04	5.72	7.00	8.08	9.90	12.8	480	—
100		○					128°	140°	148°	4.47	5.77	8.16	10.0	11.5	14.1	18.3	5	3.6
140		○					130°	140°	147°	6.26	8.08	11.4	14.0	16.2	19.8	25.6	610	4.3
180			○				131°	140°	146°	8.05	10.4	14.7	18.0	20.8	25.5	32.9	5	4.8
230			○				133°	140°	146°	10.3	13.3	18.8	23.0	26.6	32.5	42.0	650	5.3
320				○			134°	140°	145°	14.3	18.5	26.1	32.0	37.0	45.3	58.4	5	6.4
450					○		135°	140°	144°	20.1	26.0	36.7	45.0	52.0	63.6	82.2	850	7.6
620					○		135°	140°	144°	27.7	35.8	50.6	62.0	71.6	87.7	113	5	9.0
1000					○		135°	140°	143°	44.7	57.7	81.6	100	115	141	183	1,150	11.4
1500						○	136°	140°	142°	67.1	86.6	122	150	173	212	274	1,100	14.5
2500						○	136°	140°	142°	112	155	204	250	289	354	456	1,550	18.5

●.....With strainer ○.....Without strainer

YYP-PVC series (Injection molded)

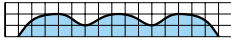
Spray Capacity Code	Pipe Conn. Size	Spray Angle			Spray Capacity (ℓ/min)						Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)	
		0.05 MPa	0.15 MPa	0.4 MPa	0.03 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.3 MPa			0.5 MPa
03	1/8M	—	115°	135°	—	—	0.25	0.30	0.35	0.42	0.55	190	0.6
04		—	120°	137°	—	—	0.33	0.40	0.46	0.56	0.73		0.7
05		—	130°	146°	—	—	0.41	0.50	0.58	0.71	0.91		0.8
07		—	130°	145°	—	—	0.57	0.70	0.81	0.99	1.28	5	1.0
10		103°	130°	144°	—	0.58	0.82	1.00	1.15	1.41	1.83		1.1
13		108°	130°	144°	—	0.75	1.06	1.30	1.50	1.84	2.37		1.3
16		110°	130°	143°	—	0.92	1.31	1.60	1.85	2.26	2.92	280	1.5
20		116°	135°	147°	0.89	1.15	1.63	2.00	2.31	2.83	3.65	5	1.7
25		117°	135°	146°	1.12	1.44	2.04	2.50	2.89	3.54	4.56		1.8
30		118°	135°	146°	1.34	1.73	2.45	3.00	3.46	4.24	5.48	380	2.0

* No strainers for injection-molded YYP-PVC series.

Wide-angle Flat Spray Nozzles
for Ultra-low Pressure Spraying

Patented

LYYP



Features

- Wide-angle flat spray with uniform distribution.
- Capable of low operating pressures (0.015MPa).
- Low volume spray has such a low impact force that no bubbles nor foam will appear on the spray surface. All LYYP products are treated oil-free.

Standard Pressure

0.015MPa

Applications

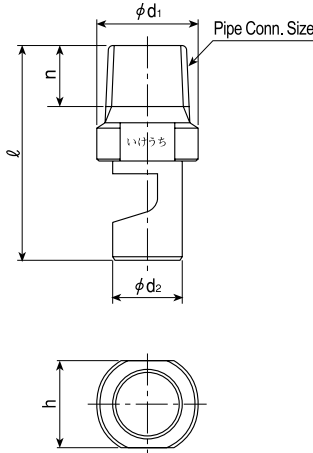
Spraying : Developing solution for semi-conductor manufacturing processes, ultra-low volume spray for pharmaceutical manufacturing processes, chemical spraying to surface treated steel plates, etc.

LYYP-series

	LYYP-series
Structure	• Made of plastic, one-piece structure.
Material	• PVC (polyvinyl chloride) • Optional material : S316 or PCTFE

Series	Pipe Conn. Size	Dimensions(mm)					Mass (g)
		ℓ	h	n	φ d ₁	φ d ₂	
LYYP	1/8M	23	10	7	12	8	1.5

[Note] Appearance and dimensions may differ slightly depending on materials and nozzle codes.



Spray Capacity Code	Pipe Conn. Size	Spray Angle			Spray Capacity (ℓ/min)							Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)
		0.01 MPa	0.015 MPa	0.02 MPa	0.008 MPa	0.01 MPa	0.012 MPa	0.015 MPa	0.02 MPa	0.03 MPa	0.04 MPa		
02	1/8M	—	70°	77°	—	—	0.18	0.20	0.23	0.28	0.33	850	0.9
025		67°	80°	87°	—	0.20	0.22	0.25	0.29	0.35	0.41		1.0
03		77°	90°	97°	0.22	0.24	0.27	0.30	0.35	0.42	0.49		1.0
035		87°	100°	107°	0.26	0.29	0.31	0.35	0.40	0.49	0.57	1.1	
04		88°	100°	108°	0.29	0.33	0.36	0.40	0.46	0.57	0.65	5	1.2
05		97°	110°	117°	0.37	0.41	0.45	0.50	0.58	0.71	0.82		1.3
06		107°	120°	127°	0.44	0.49	0.54	0.60	0.69	0.85	0.98	1.4	
07		107°	120°	127°	0.51	0.57	0.63	0.70	0.81	0.99	1.14	1.6	
08		108°	120°	128°	0.58	0.65	0.72	0.80	0.92	1.13	1.31	1.7	
10		108°	120°	128°	0.73	0.82	0.89	1.00	1.15	1.41	1.63	1,350	1.9

How to order

Please inquire or order for a specific nozzle using this coding system.

Example... 1/8MYYP03BW

1/8M	YYP	03	B	W
Pipe Conn. Size		Spray Capacity Code	Material	Strainer
1/8M		03	B	W (with Strainer)
5		5	S303	— (without Strainer)
1M		2500	PVC (Injection molded)	

How to order

Please inquire or order for a specific nozzle using this coding system.

Example... 1/8MLYYP02PVC

1/8M	LYYP	02	PVC
Pipe Conn. Size		Spray Capacity Code	Material
1/8M		02	PVC
5		5	
1M		10	